

## Drug points

### Burns after photodynamic therapy

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Photodynamic therapy comprises a photosensitising agent, which accumulates in malignant tissue, and a light source, which activates the photosensitiser, causing it to generate highly reactive oxygen species that destroy malignant cells. Temoporfin is a second generation photosensitiser that has a shorter half life than its predecessors and is thought to be more selective towards tumours. These two factors should



Partial thickness burn on left forearm

decrease the incidence of photosensitivity, one of the main side effects of photodynamic therapy. We report on a group of patients who received a single dose of temoporfin (Foscan, Scotia Pharmaceuticals) and developed partial thickness burns after minimal exposure to light.

Fourteen healthy men aged between 20 and 26 were given a single dose (0.100-0.129 mg/kg) of temoporfin as part of a pharmacokinetic study. The dosage was a standard therapeutic one.<sup>1</sup> After two weeks they were exposed to a test dose of sunlight. Twelve men showed no photosensitivity and were told to avoid prolonged exposure to bright sunlight for three months. Within 48 hours of discharge six of the 12 men had developed partial thickness burns on the left forearm (figure) and more superficial burns on other body areas (about 1% of total body surface area) after transient exposure to daylight. They were referred to the regional burns centre where they were treated conventionally with paraffin dressings and reviewed at five day intervals. Healing was much slower than with conventional thermal injury (28 versus 14 days), with prominent scarring in several men. As the men had signed disclaimers before the trial, they were not automatically entitled to compensation.

Photodynamic therapy is used in the treatment of various malignancies,<sup>2,3</sup> and photosensitivity is a recognised complication. There is only one report of a skin burn,<sup>4</sup> which was caused by a pulse oximeter that probably activated the photosensitiser. There are no previous published reports of burns after exposure to environmental light.

The use of photodynamic therapy is increasing and this may result in more adverse events as described here. Burns associated with photodynamic therapy may need referral to a specialist burns unit.

- 1 Kubler AC, Haase T, Staff C, Kahle B, Rheinwald M, Muhling J. Photodynamic therapy of primary nonmelanomatous skin tumours of the head and neck. *Lasers Surg Med* 1999;25:60-8.
- 2 McCaughan JS Jr, Williams TE. Photodynamic therapy for endobronchial malignant disease: a prospective fourteen-year study. *J Thorac Cardiovasc Surg* 1997;114:940-6.
- 3 Dilkes MG, De Jode ML, Gardiner Q, Kenyon GS, McKelvie P. Treatment of head and neck cancer with photodynamic therapy: results after one year. *J Laryngol Otol* 1995;109:1072-6.
- 4 Farber NE, McNeely J, Rosner D. Skin burn associated with pulse oximetry during perioperative photodynamic therapy. *Anesthesiology* 1996;84:983-5.

### One hundred years ago Human hibernation

A Practice closely akin to hibernation is said to be general among Russian peasants in the Pskov Government, where food is scanty to a degree almost equivalent to chronic famine. Not having provisions enough to carry them through the whole year, they adopt the economical expedient of spending one half of it in sleep. This custom has existed among them from time immemorial. At the first fall of snow the whole family gathers round the stove, lies down, ceases to wrestle with the problems of human existence, and quietly goes to sleep. Once a day every one wakes up to eat a piece of hard bread, of which an amount sufficient to last six months has providently been baked in the previous autumn. When the bread has been washed down with a draught of water, everyone goes to sleep again. The members of the family take it in turn to watch and keep the fire alight. After six months of this reposeful existence the family wakes up, shakes itself, goes out to see if the grass is growing, and by-and-by sets to work at summer tasks. The country remains comparatively lively

till the following winter, when again all signs of life disappear and all is silent, except we presume for the snores of the sleepers. This winter sleep is called *lotska*. These simple folk evidently come within the terms of Touchstone's definition of a natural philosopher; and many whose lot is cast in places where men are breathless with the fierce race for power or glory or wealth would doubtless be disposed to say of them, *O fortunatos nimium sua si bona norint!* In addition to the economic advantages of hibernation, the mere thought of a sleep which knits up the ravelled sleeve of care for half a year on end is calculated to fill our harassed souls with envy. We, doomed to dwell here where men sit and hear each other groan, can scarce imagine what it must be for six whole months out of the twelve to be in the state of Nirvana longed for by Eastern sages, free from the stress of life, from the need to labour, from the multitudinous burdens, anxieties, and vexations of existence.

(*BMJ* 1900;i:1554.)